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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,121	09/28/2001	J. G. Walacavage	200-0667	4437
7590 Daniel H. Bliss Bliss McGlynn P.C. Suite 600 2075 West Big Beaver Road Troy, MI 48084			EXAMINER GEBRESILASSIE, KIBROM K	
			ART UNIT 2128	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/966,121

Applicant(s)

WALACAVAGE ET AL.

Examiner

Kibrom K. Gebresilassie

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/26/07 & 10/29/2007</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on 07/19/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is made in view of US Patent No. 6, 442, 441 issued to Walacavage et al.

2. Claims 1-19 are presented for examination.

Drawings

3. The drawings are objected to because **Fig. 1, #17, and #16 are difficult to read.** Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, the claims are not used to achieve as recited in the preamble such as "emulating machine tool behavior".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6, 442, 441 issued to Walacavage et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the

invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per claim 1:

Walacavage discloses a method of emulating machine tool behavior for a programmable logic controller logical verification system for manufacturing a motor vehicle, said method comprising the steps of:

constructing a mechanical model using a computer (**See: Fig. 1, Fig. 2 #13a, 13b and corresponding texts**);

generating transformational arrays for the mechanical model (such as *neutral control model file or VLE*) by incrementally recording one position of each piece of geometry of the mechanical model moved through space over a period of time using the computer (**See: Col. 2 lines 54-67; Col. 3 lines 1-40**);

viewing motion of the mechanical model in a motion viewer based on the transformational arrays using the computer (**See: Fig. 1 #14, Fig. 2 #14 and corresponding texts**);

determining whether the motion of the mechanical model is acceptable (**See: Fig. 2 #34 and corresponding texts**);

replicating the motion of the mechanical model by generating a PLC code for the motion of the mechanical model using the computer if the motion of the mechanical model was acceptable (**See: Fig. 2 #15, #36, #38 and corresponding texts; Col. 4 lines 6-29**); and

using the accepted motion of the mechanical model to compare the behavior of the PLC code relative to the accepted motion by playing the PLC code with a PLC

emulator (**See: Fig. 2 #40, #42, 44, and corresponding texts; Col. 4 lines 30-67; Col. 5 lines 1-2**).

As per claim 2:

Walacavage discloses a method as set forth in claim 1 wherein said step of constructing comprises using a mechanical tool design system to construct the mechanical model (**See: Fig. 1 #13a, 13b and corresponding texts**).

As per claim 3:

Walacavage discloses a method as set forth in claim 2 including the step of constructing an electromechanical model (**See: Fig. 1 #13a, 13b and corresponding texts**).

As per claim 4:

Walacavage discloses a method as set forth in claim 3 wherein said step of constructing the mechanical model includes binding the electromechanical model to the mechanical model (**See: Col. 3 lines 23-34**).

As per claim 5:

Walacavage discloses a method as set forth in claim 4 wherein said step of constructing the electromechanical model comprises using a PLC logical verification system to construct the electromechanical model (**See: Fig. 1 #18 and corresponding texts**).

As per claim 6:

Walacavage discloses a method as set forth in claim 1 wherein said step of generating transformational arrays comprises generating the transformational arrays

based on computer aided design (CAD) geometries of the mechanical model (**See: Col. 2 lines 54-67; Col. 3 lines 1-40**).

As per claim 7:

Walacavage discloses a method as set forth in claim 6 including the step of exporting the mechanical model to a control system design system (**See: Fig. 1, Fig. 2 #13a, 13b and corresponding texts**).

As per claim 8:

Walacavage discloses a method as set forth in claim 7 including the step of constructing a motion file based on the mechanical model and transformational arrays (**See: Col. 2 lines 54-67; Col. 3 lines 1-40**).

As per claim 9:

Walacavage discloses a method as set forth in claim 8 wherein said step of displaying further comprises playing the motion file by a motion player (**See: Fig. 2 #14 and corresponding texts**).

As per claim 10:

Walacavage discloses a method as set forth in claim 8 including the step of returning to the mechanical tool design system if the motion of the mechanical model is not acceptable (**See: Fig. 2 #34 and corresponding texts**).

As per claim 11:

Walacavage discloses a method of emulating machine tool behavior for a programmable logic controller logical verification system for manufacturing a motor vehicle, said method comprising the steps of:

constructing a mechanical model using a computer (**See: Fig. 1, Fig. 2 #13a, 13b and corresponding texts**);

generating CAD transformational arrays for motion in the mechanical model (such as *neutral control model file or VLE*) by incrementally recording one position of each piece of geometry of the mechanical model moved through space over a period of time using the computer (**See: Col. 2 lines 54-67; Col. 3 lines 1-40**);

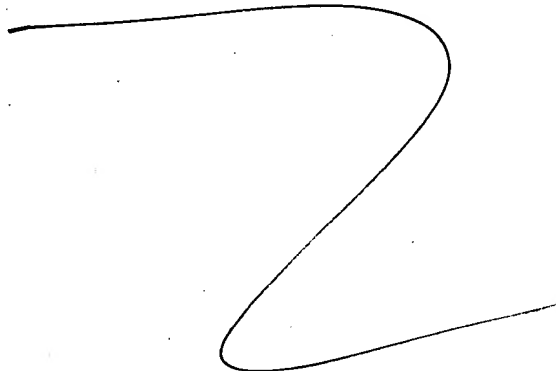
constructing a motion file based on the mechanical model and the CAD transformational arrays using the computer (such as *neutral control model file or VLE*);

viewing the motion of the motion file in a motion viewer using the computer **See: Fig. 1 #14, Fig. 2 #14 and corresponding texts**);

determining whether the motion of the mechanical model is acceptable (**See: Fig. 2 #34 and corresponding texts**);

replicating the motion of the mechanical model with motion commands in a PLC code using the computer if the motion of the mechanical model was acceptable (**See: Fig. 2 #15, #36, #38 and corresponding texts; Col. 4 lines 6-29**); and

using the accepted motion of the mechanical model to compare the behavior of the PLC code to the accepted motion by playing the PLC code with a PLC emulator (**See: Fig. 2 #40, #42, 44, and corresponding texts; Col. 4 lines 30-67; Col. 5 lines 1-2**).



As per claims 12-19:

The limitations of claims 12-19 have already been discussed in the rejection of claims 2-7, and 9-10. The instant claims are functionally equivalent to the above rejected claims and are therefore rejected under the same rationale.

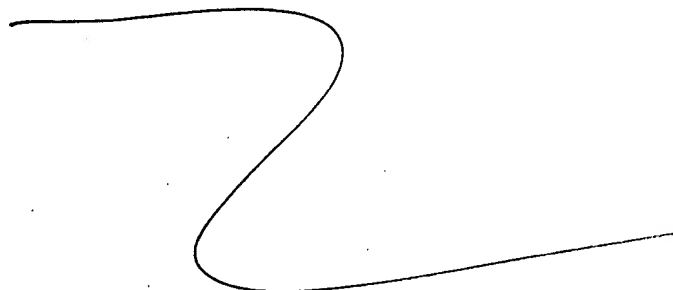
Conclusion

6. All claims are rejected.

7. Examiner's Note: **Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.**

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. **It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.**

8. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.



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Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom K. Gebresilassie whose telephone number is 571-272-8571. The examiner can normally be reached on 8:00 am - 4:30 pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini S. Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KG


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